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## **CLAIMS**

- 1. A method of inducing new hair growth or retarding hair loss, comprising: administering to a subject in need thereof substance P or a bioactive analog thereof selected from the group consisting of [Met-OH<sup>11</sup>]-substance P, [Met-OMe<sup>11</sup>]-substance P, [Nle<sup>11</sup>]-substance P, [Pro<sup>9</sup>]-substance P, [Sar<sup>9</sup>]-substance P, [Tyr<sup>8</sup>]-substance P, [p-Cl-Phe<sup>7,8</sup>]-substance P, [Sar<sup>9</sup>,Met (O<sub>2</sub>)<sup>11</sup>]-substance P, and analogs having the amino acid backbone RPKPQQFFGLM-NH<sub>2</sub>, whereby new hair growth is induced or hair loss is retarded.
- 2. The method of claim 1 wherein the subject lost hair due to chemotherapy.
- 3. The method of claim 1 wherein the subject loss hair due to radiation exposure.
- 4. The method of claim 1 wherein the subject lost hair due to illness.
- 5. The method of claim 1 wherein a bioactive analogue is administered.
- 6. The method of claim 5 wherein the bioactive analogue is  $[Sar^9, Met (0_2)^{11}]$ -substance P.
- 7. The method of claim 1 wherein the substance P analog or bioactive analog is administered as an aerosol.
- 8. The method of claim 7 wherein the concentration of substance P or the bioactive analogue in the administered aerosol is between 0.001 and  $50 \mu M$ .
- The method of claim 7 wherein the concentration of substance P or the bioactive analogue in the administered aerosol is between 0.05 and 10 μM.
- 10. The method of claim 7 wherein the concentration of substance P or the bioactive analogue in the administered aerosol is between about 0.1 and 5 μM.
- 11. The method of claim 1 wherein the substance P or bioactive analog is administered topically.

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12. The method of claim 1 wherein the substance P or bioactive analog is administered subcutaneously.

- 13. The method of claim 1 wherein the substance P or bioactive analog is administered transdermally.
- 14. The method of claim 1 wherein Substance P is administered to the subject.
- 15. The method of claim 1 wherein a Substance P analog which has the amino acid backbone RPKPQQFFGLM-NH<sub>2</sub> is administered to the subject.